

Listing of Claims

The following listing of claims replaces any pending claims. Inserted text is shown as underlined ("___") and deleted text is shown as stricken ("~~—~~").

1. (Currently Amended) ~~A method~~ An apparatus for adjusting the frequency response of a speaker system, ~~the apparatus comprising the steps of:~~

~~anticipating a main speaker low frequency sonic output from pre-determined main speaker low frequency characteristics;~~

~~determining compensation variables configured to adjust the main speaker sonic output;~~

~~inputting the compensation variables into a user interface;~~

~~receiving an input signal;~~

~~producing a high frequency signal from the input signal in response to the compensation variables~~

a user interface configured to receive user-adjustable variables indicative of main speaker low frequency characteristics; and

a compensation circuit configured to produce a desired high-pass signal from an input, the compensation circuit comprising:

a desired transfer function circuit having frequency response characteristics analogous to a desired crossover-main speaker combination;

an equivalent circuit having frequency response characteristics analogous to a main speaker; and

a deconvolution circuit configured to deconvolve the main speaker characteristics

from the desired crossover-main speaker combination characteristics.

2. (Currently Amended) The ~~system apparatus~~ of claim 1, ~~further including the step of passing the high frequency signal to a main speaker of the speaker system wherein the user-~~
adjustable variable comprises at least one variable selected from the group consisting of:

a main speaker low frequency cutoff frequency;

a main speaker low frequency damping factor;

a speaker sensitivity factor;

a speaker enclosure type; and

a gain factor.

3. (Currently Amended) A crossover system for adjusting the frequency response of a speaker system, the crossover system comprising:

a user interface configured to directly receive user-adjustable variables from a user, the user-adjustable variables being indicative of main speaker low frequency characteristics; and

a compensation circuit configured to produce a desired high-pass signal from an input signal in response to the user-adjustable variables.

4. (Original) The system of claim 3, wherein the compensation circuit further comprises:

a desired transfer function circuit having frequency response characteristics analogous to a desired crossover-main speaker combination;

an equivalent circuit having frequency response characteristics analogous to a main speaker; and

a deconvolution circuit configured to deconvolve the main speaker characteristics from the desired crossover-main speaker combination characteristics.

5. (Original) The system of 3, wherein the user adjustable variables comprise a main speaker low frequency cutoff frequency.

6. (Original) The system of 3, wherein the user adjustable variables comprise a main speaker low frequency damping factor.

7. (Original) The system of 3, wherein the user adjustable variables comprise a speaker sensitivity factor.

8. (Original) The system of 3, wherein the user adjustable variables comprise a speaker enclosure type.

9. (Original) The system of 3, wherein the user adjustable variables comprise a gain factor.

10. (Currently Amended) A method for adjusting the frequency response of a speaker system, the method comprising the steps of:

~~determining undesired sonic output characteristics for a main speaker; and~~
~~compensating for the undesired characteristics~~directly receiving user-adjustable settings
from a user, the user-adjustable settings being indicative of main speaker low frequency
characteristics; and
producing desired frequency response characteristics in response to the user adjustable
settings.

11. (Canceled)

12. (Currently Amended) The method of ~~claim 11~~claim 10, wherein the producing step further comprises the steps of:

generating a combined system response from the user adjustable settings, the combined system response having frequency response characteristics of a desired combined system;

generating an equivalent speaker response from the user adjustable settings, the equivalent speaker response having frequency response characteristics of the main speaker; and

deconvolving the equivalent speaker response from the combined speaker response to produce a compensated response.

13. (Currently Amended) The method of ~~claim 11~~claim 10, wherein the main speaker low-frequency characteristics comprise a low frequency cutoff frequency.

14. (Currently Amended) The method of claim 10, wherein the main speaker low-

frequency characteristics comprise a low frequency damping factor.

15. (Currently Amended) The method of claim 10, wherein the main speaker low-frequency characteristics comprise a speaker sensitivity factor.

16. (Currently Amended) The method of claim 10, wherein the main speaker low-frequency characteristics comprise a speaker enclosure type.

17. (Currently Amended) A system for adjusting the frequency response of a speaker system, the system comprising:

means for ~~inputting~~ receiving user adjustable settings that define low frequency characteristics of a main speaker of the speaker system, the user-adjustable settings being directly received from a user through a user interface;

means for receiving an input signal; and

means for producing a high-frequency signal from the input signal in response to the user adjustable setting.

18. (Original) The system of claim 17, wherein the means for producing the high-frequency signal further comprises means for setting a cutoff frequency for the high-frequency signal.

19. (Original) The system of claim 17, wherein the means for producing the high-

frequency signal further comprises means for setting a gain for the high-frequency signal.